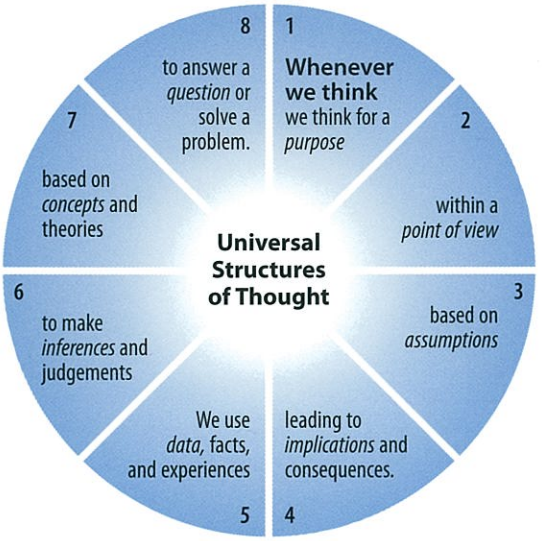
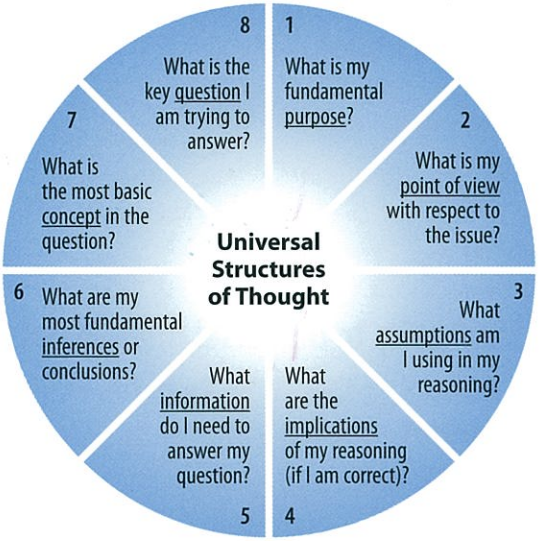
To Analyze Thinking We Must Identify and Question its Elemental Structures





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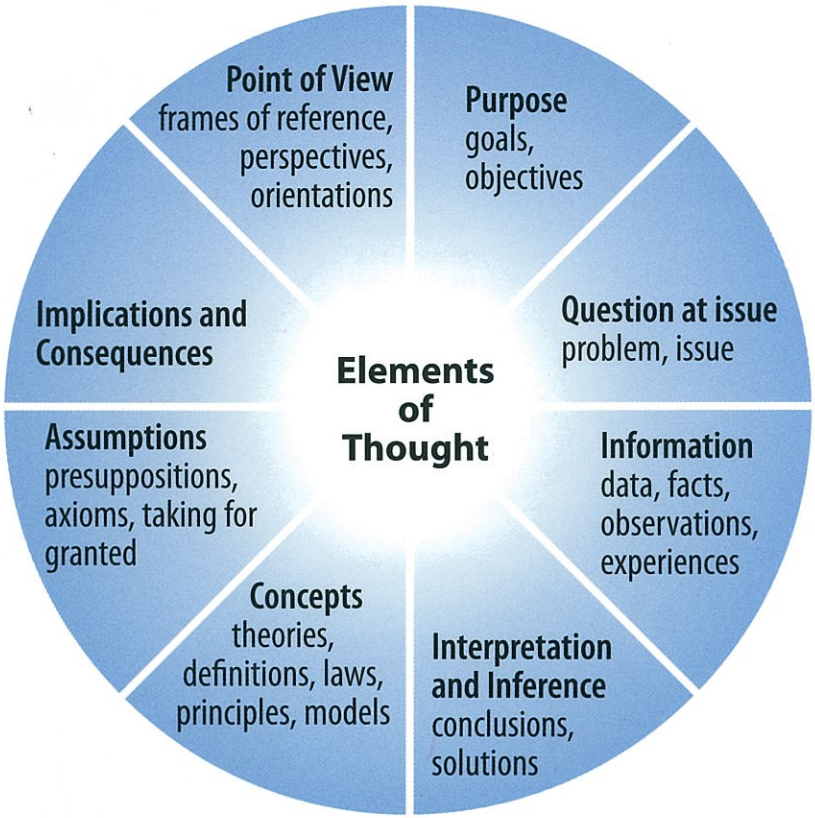
Item 202C

The Elements of Thought



Used With Sensitivity to Universal Intellectual Standards

Clarity → Accuracy → Depth → Breadth → Significance
Precision
Relevance

Excerpted from "The Thinker's Guide to Critical Thinking Concepts and Tools", page 5.

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Item 202C

Questions for Socratic Dialogue

Questions of Clarification

- What do you mean by _____?
- What is your main point?
- How does _____ relate to _____?
- Could you put that another way?
- What do you think is the main issue here?
- Is your basic point _____ or _____?
- Could you give me an example?
- Would this be an example: _____?
- Could you explain that further?
- Would you say more about that?
- Why do you say that?
- Let me see if I understand you; do you mean _____ or _____?
- How does this relate to our discussion/problem/issue?
- What do you think John meant by his remark? What did you take John to mean?
- Jane, would you summarize in your own words what Richard has said? Richard, is that what you meant?

Questions that Probe Purpose

- What is the purpose of _____?
- What was your purpose when you said _____?
- How do the purposes of these two people vary?
- How do the purposes of these two groups vary?
- What is the purpose of the main character in this story?
- How did the purpose of this character change during the story?
- Was this purpose justifiable?
- What is the purpose of addressing this question at this time?

Continued on inside.

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Questions for Socratic Dialogue, continued

Questions that Probe Assumptions

- What are you assuming?
- What is Karen assuming?
- What could we assume instead?
- You seem to be assuming _____. Do I understand you correctly?
- All of your reasoning depends on the idea that _____. Why have you based your reasoning on _____ rather than _____?
- You seem to be assuming _____. How would you justify taking this for granted?
- Is it always the case? Why do you think the assumption holds here?

Questions that Probe Information, Reasons, Evidence, and Causes

- What would be an example?
- How do you know?
- What are your reasons for saying that?
- Why did you say that?
- What other information do we need to know before we can address this question?
- Why do you think that is true?
- Could you explain your reasons to us?
- What led you to that belief?
- Is this good evidence for believing that?
- Do you have any evidence to support your assertion?
- Are those reasons adequate?
- How does that information apply to this case?
- Is there reason to doubt that evidence?
- What difference does that make?
- Who is in a position to know if that is the case?
- What would convince you otherwise?
- What would you say to someone who said _____?
- What accounts for _____?
- What do you think is the cause?
- How did this come about?
- By what reasoning did you come to that conclusion?
- How could we go about finding out whether that is true?
- Can someone else give evidence to support that response?

Questions About Viewpoints or Perspectives

- You seem to be approaching this issue from _____ perspective. Why have you chosen this rather than that perspective?
- How would other groups/types of people respond? Why? What would influence them?
- How could you answer the objection that _____ would make?
- Can/did anyone see this another way?
- What would someone who disagrees say?
- What is an alternative?
- How are Ken's and Roxanne's ideas alike? Different?

Questions that Probe Implications and Consequences

- What are you implying by that?
- When you say _____, are you implying _____?
- But if that happened, what else would also happen as a result? Why?
- What effect would that have?
- Would that necessarily happen or only probably happen?
- What is an alternative?
- If this and this are the case, then what else must be true?

Questions About the Question

- How can we find out?
- Is this the same issue as _____?
- How could someone settle this question?
- Can we break this question down at all?
- Is the question clear? Do we understand it?
- How would _____ put the issue?
- Is this question easy or difficult to answer? Why?
- What does this question assume?
- Would _____ put the question differently?
- Why is this question important?
- Does this question ask us to evaluate something?
- Do we need facts to answer this?
- Do we all agree that this is the question?
- To answer this question, what other questions would we have to answer first?
- I'm not sure I understand how you are interpreting the main question at issue.

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Item 203C

To Evaluate Thinking We Must Apply Intellectual Standards to the Elements of Thought

Clarity

Understandable, the meaning can be grasped
Could you elaborate further? Could you give me an example? Could you illustrate what you mean?

Accuracy

Free from errors or distortions, true
How could we check on that? How c ould we find out if that is true? How could we verify or test that?

Precision

Exact to the necessary level of detail
Could you be more specific? Could you give me more details? Could you be more exact?

Relevance

Relating to the matter at hand
How does that relate to the problem? How does that bear on the question? How does that help us with the issue?

Depth

Containing complexities and multiple interrelationships
What factors make this a difficult problem? What are some of the complexities of this question? What are some of the difficulties we need to deal with?

Breadth

Encompassing multiple viewpoints
Do we need to look at this from another perspective? Do we need to consider another point of view? Do we need to look at this in other ways?

Logic

The parts make sense together, no contradictions
Does all this make sense together? Does your first paragraph fit in with your last? Does what you say follow from the evidence?

Significance

Focusing on the important, not trivial
Is this the most important problem to consider? Is this the central idea to focus on? Which of these facts are most important?

Fairness

Justifiable, not self-serving or one-sided
Do I have any vested interest in this issue? Am I sympathetically representing the viewpoints of others?

Excerpted from "The Thinker's Guide to Analytic Thinking", page 6-7.

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Item 204C

Criteria for Evaluating Reasoning

1. **Purpose:** What is the purpose of the reasoner? Is the purpose clearly stated or clearly implied? Is it justifiable?

2. **Question:** Is the question at issue well-stated? Is it clear and unbiased? Does the expression of the question do justice to the complexity of the matter at issue? Are the question and purpose directly relevant to each other?

3. **Information:** Does the reasoner cite relevant evidence, experiences, and/or information essential to the issue? Is the information accurate? Does the reasoner address the complexities of the issue?

4. **Concepts:** Does the reasoner clarify key concepts when necessary? Are the concepts used justifiably?

5. **Assumptions:** Does the reasoner show a sensitivity to what he or she is taking for granted or assuming? (Insofar as those assumptions might reasonably be questioned?) Does the reasoner use questionable assumptions without addressing problems which might be inherent in those assumptions?

6. **Inferences:** Does the reasoner develop a line of reasoning explaining well how s/he is arriving at her or his main conclusions?

7. **Point of View:** Does the reasoner show a sensitivity to alternative relevant points of view or lines of reasoning? Does s/he consider and respond to objections framed from other relevant points of view?

8. **Implications:** Does the reasoner show a sensitivity to the implications and consequences of the position s/he is taking?

Altered from "The Miniature Guide to Critical Thinking Concepts and Tools", page14.

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Item 204C

35 Dimensions of Critical Thought

A. Affective Dimensions

- thinking independently
- developing insight into egocentricity or sociocentricity
- exercising fairmindedness
- exploring thoughts underlying feelings and feelings underlying thought
- developing intellectual humility and suspending judgment
- developing intellectual courage
- developing intellectual good faith or integrity
- developing intellectual perseverance
- developing confidence in reason

B. Cognitive Dimensions—Macro-Abilities

- refining generalizations and avoiding oversimplifications
- comparing analogous situations: transferring insights to new contexts
- developing one's perspective: creating or exploring beliefs, arguments, or theories
- clarifying issues, conclusions, or beliefs
- clarifying and analyzing the meanings of words or phrases
- developing criteria for evaluation: clarifying values and standards
- evaluating the credibility of sources of information
- questioning deeply: raising and pursuing root or significant questions analyzing or evaluating arguments, interpretations, beliefs, or theories generating or assessing solutions
- analyzing or evaluating actions or policies

Continued on reverse

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Item 205C

35 Dimensions of Critical Thought, continued

B. Cognitive Dimensions—Macro-Abilities, continued

- reading critically: clarifying or critiquing texts
- listening critically: the art of silent dialogue
- making interdisciplinary connections
- practicing Socratic discussion: clarifying and questioning beliefs, theories, or perspectives
- reasoning dialogically: comparing perspectives, interpretations, or theories
- reasoning dialectically: evaluating perspectives, interpretations, or theories

C. Cognitive Dimensions—Micro-Skills

- comparing and contrasting ideals with actual practice
- thinking precisely about thinking: using critical vocabulary
- noting significant similarities and differences
- examining or evaluating assumptions
- distinguishing relevant from irrelevant facts
- making plausible inferences, predictions, or interpretations
- giving reasons and evaluating evidence and alleged facts
- recognizing contradictions
- exploring implications and consequences

Developing Intellectual Virtues Requires Routinely Asking These Questions of Yourself

Intellectual humility – knowledge of ignorance, sensitivity to what you know and what you do not know.

- What do I really know (about myself, about the situation, about another person, about my nation, about what is going on in the world)?
- To what extent do my prejudices or biases influence my thinking?
- To what extent have I been indoctrinated into beliefs that may be false?
- How do the beliefs I have uncritically accepted keep me from seeing things as they are?

Intellectual courage – the disposition to question beliefs you feel strongly about.

- To what extent have I analyzed the beliefs I hold?
- To what extent have I questioned my beliefs, many of which I learned in childhood?
- To what extent have I demonstrated a willingness to give up my beliefs when sufficient evidence is presented against them?
- To what extent am I willing to stand up against the majority (even though people might ridicule me)?

Continued on inside.

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Item 206C

Developing Intellectual Virtues, continued

Intellectual empathy – your awareness of the need to actively entertain views that differ from your own, especially those you strongly disagree with.

- To what extent do I accurately represent viewpoints I disagree with?
- Can I summarize the views of my opponents to their satisfaction?
- Can I see insights in the views of others and prejudices in my own?
- Do I sympathize with the feelings of others in light of their thinking differently than me?

Intellectual integrity – holding yourself to the same intellectual standards you expect others to honor (no double standards).

- Do I behave in accordance with what I say I believe, or do I tend to say one thing and do another?
- To what extent do I expect the same of myself as I expect of others?
- To what extent are there contradictions or inconsistencies in my life?
- To what extent do I strive to recognize and eliminate self-deception in my life?

Intellectual perseverance – the disposition to work your way through intellectual complexities despite frustrations.

- Am I willing to work my way through complexities in an issue or do I tend to give up when I experience difficulty?
- Can I think of a difficult intellectual problem in which I have demonstrated patience and determination in working through the difficulties?
- Do I have strategies for dealing with complex problems?
- Do I expect learning to be easy or do I recognize the importance of engaging in challenging intellectual work?

Confidence in reason – based on the belief that one's own higher interests and those of humankind at large are best served by giving the freest play to reason.

- Am I willing to change my position when the evidence leads to a more reasonable position?
- Do I adhere to principles of sound reasoning when persuading others of my position or do I distort matters to support my position?
- Do I deem it more important to "win" an argument, or see the issue from the most reasonable perspective?
- Do I encourage others to come to their own conclusions or do I try to force my views on them?

Intellectual autonomy – thinking for oneself while adhering to standards of rationality.

- To what extent am I a conformist?
- To what extent do I uncritically accept what I am told by my government, the media, my peers?
- Do I think through issues on my own or do I merely accept the views of others?
- Having thought through an issue from a rational perspective, am I willing to stand alone despite the irrational criticisms of others?

Adapted from "The Miniature Guide for Students on How to Study & Learn", page 28-29.

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